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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 5

Complete if Known

Application Number	09/440,371
Filing Date	November 12, 1999
First Named Inventor	BLACKBURN et al.
Group Art Unit	1643
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-66566-3/RFT/RMS/RMK

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
Gn	1	4,704,193		Bowers et al.	11/1987	
	2	4,945,045		Forrest et al.	07/1990	
	3	5,089,112		Skothheim et al.	02/1992	
	4	5,180,968		Bruckenstein et al.	01/1993	
	5	5,242,828		Bergstrom et al.	09/1993	
	6	5,356,786		Heller et al.	10/1994	
	7	5,391,272		O'Daly et al.	02/1995	
	8	5,436,161		Bergstrom et al.	07/1995	
	9	5,443,701		Willner et al.	08/1995	
	10	5,552,270		Khrapko et al.	9/1996	
	11	5,700,667		Marble et al.	12/1997	
	12	5,741,700		Ershov et al.	4/1998	
	13	5,756,050		Ershov et al.	5/1998	
	14	5,770,721		Ershov et al.	6/1998	

FOREIGN PATENT DOCUMENTS							
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Gn	15	WO	86/05815	A1	Genetics International Inc.	3/1985	
	16	WO	97/31256	A3	Cornell Research Found.	08/1997	
	17	WO	97/44651	A1	Australian Membrane and Biotechnology Research Institute	11/1997	
	18	WO	97/27329	A1	Univ. of Chicago	7/1997	
	19	WO	97/41425	A1	Pence Inc.	11/1997	
	20	WO	98/27229	A1	Univ. of Chicago	6/1998	
	21	WO	98/28444	A2	Univ. of Chicago	7/1998	
	22	WO	98/51823	A1	Mosaic Technologies	11/1998	

Examiner Signature	<i>Alb. Naghera</i>	Date Considered	02/23/04
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		Number	Kind Code ² (if known)			
an	23	5,795,453		Gilmartin	08/1998	
an	24	5,824,473		Meade et al.	10/1998	
an	25	5,837,859		Teoule et al.	11/1998	
an	26	5,849,486		Heller et al.	12/1998	
an	27	5,851,772		Mirzabekov et al.	12/1998	
an	28	5,952,172		Meade et al.	09/1999	
an	29	6,060,023		Maracas	05/2000	
an	30	6,060,327		Keen	05/2000	
an	31	6,096,273		Kayyem et al.	08/2000	
an	32	6,071,699		Meade et al.	06/2000	
an	33	6,087,100		Meade et al.	07/2000	
an	34	6,096,825		Garnier et al.	08/2000	
an	35	6,107,080		Lennox	08/2000	
an	36	6,177,250		Meade et al.	01/2001	
an	37	6,180,352		Meade et al.	01/2001	
an	38	6,238,870		Meade et al.	05/2001	
an	39	6,200,761		Meade et al.	03/2001	
an	40	5,194,133		Clark et al.	03/1993	
an	41	5,728,532		Ackley	03/1998	
an	42	5,785,789		Gagnon et al.	07/1998	
an	43	5,945,286		Krihak et al.	03/1993	

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an	44	WO	98/57159	A1	Clinical Micro Sensors, Inc.	6/1997		
an	45	WO	98/57319	A1	Clinical Micro Sensors, Inc.	11/1999		
an	46	WO	99/29711	A1	Nanogen Inc.	06/1999		
an	47	WO	99/67425	A2	Clinical Micro Sensors, Inc.	12/1999		
an	48	WO	99/37819	A2	Clinical Micro Sensors, Inc.	07/1999		
an	49	JP	6-41183	A2	Mitsubishi Chem Ind.	1997		

Examiner Signature

Alb. Nagler

Date Considered

2/23/04

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				Application Number	09/440,371
				Filing Date	November 12, 1999
				First Named Inventor	BLACKBURN et al.
				Group Art Unit	1643
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				Attorney Docket Number	A-66566-3/RFT/RMS/RMK
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		Number	Kind Code ² (if known)			
an	50	6,020,047		Everhart	02/2000	
an	51	6,203,758		Marks et al.	03/2001	
an	52	5,064,618		Baker et al.	11/1991	
an	53	5,098,781		Minnick et al.	03/1992	
an	54	5,106,751		Newman	03/1992	
an	55	5,505,321		Caron et al.	03/1996	
an	56	5,532,128		Eggers et al.	07/1996	
an	57	5,552,270		Kraphko et al.	09/1996	
an	58	5,657,208		Noe et al.	08/1997	
an	59	5,694,932		Michel	08/1999	
an	60	5,727,548		Hill et al.	03/1998	
an	61	5,741,700		Ershov et al.	04/1998	

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
an	63	Blonder et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
an	64	Boon et al., "Mutation Detection by Electrocatalysis at DNA- Modified Electrodes," Nature Biotechnology, 18: 1096-1100 (October 2000).	
an	65	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β -thalassemia Mutations," Gene, 188:45-52 (1997).	
an	66	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," Nucleic Acids Research, 25(12):2259-2265 (1997).	
an	67	Elghanian et al., "Selective Colorimetric Detection of Polynucleotides Based on the Distance-Dependent Optical Properties of Gold Nanoparticles," Science, 277:1078-1081 (1997).	
an	68	Fotin, A. et al., "Parallel Thermodynamic Analysis of Duplexes on Oligodeoxyribonucleotide Microchips," Nucleic Acids Research, 21(6):1515-1521 (1998).	
an	69	Guschin, D. et al., "Manual Manufacturing of Oligonucleotide, DNA, and Protein Microchips," Analytical Biochemistry, 250:203-211 (1997).	
an	70	Guschin, D. et al., "Oligonucleotide Microchips as Genosensors for Determinative and Environmental Studies in Microbiology," 63(6):2397-2402 (1997).	
an	71	Hess et al., "Base Pairing Properties of Novel Transition Metal PNA Conjugates," Journal of Inorganic Biochemistry, 74:161 (1999).	
an	72	Kamat et al., J. Phys. chem., 93(4):1405-1409 (1989).	
an	73	Livshits, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization with Gel-Immobilized Oligonucleotides," Biophysical Journal, 71:2795-2801 (1996).	
an	74	Mirkin et al., "A DNA-based Method for Rationally Assembling Nonoparticles into Macroscopic Materials," Nature, 382:607-609 (1996). Aug 12	
an	75	Mirzabekov, A. et al., "Dna Sequencing by Hybridization - a Megasequencing Method and a Diagnostic Tool," Tibtech, 12:27-32 (1994).	
an	76	Mitchell et al., "Programmed Assembly of DNA Functionalized Quantum Dots," J. Am. Chem. Soc., 121:8122-8123 (1999).	
an	77	Mucic et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," J. Am. Chem. Soc., 120:12674-12675 (1998).	

Examiner Signature	<i>Ch. Nagler</i>	Date Considered	02/23/04
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Sheet	5	of	5		

[illegible]

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